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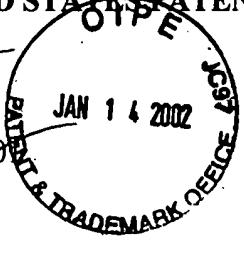
Serial No.: 09/975,475

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Applicant: Madou et al.

Entitled: ELECTROCHEMICAL DETECTORS BASED ON METAL OXIDES

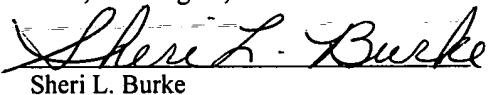
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Sheri L. Burke

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Sir:

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§ 1.97-1.98

As authorized and encouraged under 37 CFR §§ 1.97-1.98 and the provisions of MPEP §§ 609 and 707.05 (b), Applicant(s) submits herewith certain patent references, publications and/or other information which the Patent and Trademark Office may wish to consider in examining the above-identified patent application. The references and information are listed below and on attached form PTO-1449.

U.S. PATENTS

U.S. PATENT NUMBER	INVENTOR(S)
5,480,534	Kato et al.

FOREIGN PATENT DOCUMENTS

COUNTRY	PATENT NO.	INVENTOR(S)
PCT	WO 99/50277	Ruffner et al.

OTHER DOCUMENTS

- 1. Einerhand, R. et al., "pH Measurement in Strong Koh Solutions with a Bismuth Electrode", *Electrochim. Acta*, **34**, 345 (1989).
- 2. Grubb, W. et al., "Palladium-Palladium Oxide pH Electrodes", *Anal. Chem.*, **52**, 270 (1980).
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- 9. Hitchman, M. et al., "Evaluation of Iridium Oxide Electrodes Formed by Potential Cycling as pH Probes", *Analyst*, **113**, 35 (1988).
- 10. Olthuis, W. et al., "pH Sensor Properties of Electrochemically Grown Iridium Oxide", *Sensors & Actuators*, **B2**, 247 (1990).
- 11. Song, I. et al., "Metal Oxide/Metal pH Sensor: Effect of Anions on pH Measurements", *Corrosion*, **54**, 13 (1998).
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- 14. Katube, T., et al., "pH-Sensitive Sputtered Iridium Oxide Films", *Sensors & Actuators*, **2**, 399 (1982).
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- 16. Tarlov, M. et al., "Mechanistic and Response Studies of Iridium Oxide pH Sensors", *Sensors & Actuators*, **B1**, 293 (1990).
- 17. Kato, A. et al., "Metox pH Sensor as pH Measuring Electrode", *Anal. Sci.*, **7** supplement, 1577 (1991).
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- 19. Dobson, J. et al., "EMF Measurements of Cells Employing Metal-Metal Oxide Electrodes in Aqueous Chloride and Sulphate Electrolytes at Temperatures Between 25-250 C", *Electrochim. Acta*, **21**, 527 (1976).
- 20. Papeschi, G. et al., "An Iridium-Iridium Oxide Electrode for in vivo Monitoring of Blood pH Changes", *J. Med. Eng. & Tech.*, **5**, 86 (1981).
- 21. Ardizzone, A. et al., Properties of Thermally Prepared Iridium Dioxide Electrodes", *J. Electroanal. Chem.*, **126**, 287 (1981).
- 22. Kinoshita, K. et al., "Electrochemical Measurements on Pt, Ir, and Ti Oxides as pH Probes", *J. Electrochem. Soc.*, **131**, 1089 (1984).
- 23. Hitchman, M. et al., A Field-Induced Poising Technique for Promoting Convergence of Standard Electrode Potential Values of Thermally Oxidized Iridium pH Sensors", *Talanta*, **39**, 137 (1992).
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- 25. Hitchman, H. et al., "Potentiometric Determination of Proton Activities in Solutions Containing Hydrofluoric Acid Using Termally Oxidized Iridium Electrodes", *Analyst*, **116**, 1131 (1991).
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- 27. Izutsu, K. et al., "Response of an Iridium Oxide pH-Sensor in Nonaqueous Solutions. Comparison with Other pH-Sensors", *Anal. Sci.*, **12**, 905 (1996).
- 28. Gottesfeld, S. et al., "Electrochromism in Anodic Iridium Oxide Films", *J. Electrochem. Soc.*, **126**, 742 (1979).
- 29. Buckley, D. et al., "The Oxygen Electrode", *J. Chem. Soc. Faraday Trans.*, **1**, **72**, 1896 (1976).

- ~ 30. Burke, L. et al., "A Voltammetric Investigation of the Charge Storage Reactions of Hydrous Iridium Oxide Layers", *J. Electroanal. Chem.*, **162**, 121 (1984).
- ~ 31. Pickup, P. et al., "The Influence of the Aqueous Growth Medium on the Growth Rate, Composition, and Structure of Hydrous Iridium Oxide Films", *J. Electrochem. Soc.*, **135**, 126 (1988).
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- ~ 37. Claes, P. et al., "Chemical and Electrochemical Behaviour of Copper Species in the Molten Eutectic Mixture $\text{Na}_2\text{CO}_3 + \text{K}_2\text{CO}_3$ at 800 Degrees C", *J. Electroanal. Chem.*, **389**, 37 (1995).
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- ~ 39. Malinowska, B. et al., "Behaviour of Nickel Species in Molten $\text{Li}_2\text{CO}_3 + \text{Na}_2\text{CO}_3 + \text{K}_2\text{CO}_3$ Part 1. Thermodynamic Approach and Electrochemical Characterization Under $P(\text{CO}_2) = 1$ atm", *J. Electroanal. Chem.*, **21**, 389 (1995).
- ~ 40. Cassir, M. et al., "Thermodynamic and Electrochemical Behavior of Nickel in Molten $\text{Li}_2\text{CO}_3 - \text{Na}_2\text{CO}_3$ Modified by Addition of Calcium Carbonate", *J. Electroanal. Chem.*, **452**, 127 (1998).
- ~ 41. Nishina, T. et al., "Gas Electrode Reactions in Molten Carbonate Media", *J. Electrochem. Soc.*, **141**, 1191 (1994).
- ~ 42. Ta, K. et al., "Proton Intercalation Hysteresis in Charging and Discharging Nickel Hydroxide Electrodes." *J. Electrochem. Soc.*, **146**, 8 (1999).
- ~ 43. Ranganathan, S. et al., "Photoresist-Derived Carbon for Microelectromechanical Systems and Electrochemical Applications", *J. Electrochem. Soc.*, **147**, 1 (2000).
- ~ 44. Yao, S. et al., "Potentiometric Carbon Dioxide Sensor Based on Iridium Oxide pH Electrode", *Electrochemical Society Proceedings 99-23*.

A copy of each document is included for the express purpose of providing the Patent and Trademark Office with ample opportunity to evaluate the same and arrive at an independent assessment of the materiality of each, if any, to the examination of the above-identified application.

In reviewing the enclosed copies of the above documents, the Examiner is instructed to ignore any underscoring or highlighting which may have been done because such markings may or may not have any relationship to the subject matter of the above-identified application. The copies being submitted with this Information Disclosure Statement are the best copies available at this time.

The identification of any document herein is not intended to be, and should not be understood as being, an admission that each such document, in fact, constitutes "prior art" within the meaning of applicable law.

Applicant(s) respectfully requests that the documents cited herein be made of record in the normal manner and that such documents appear on the printed patent as being considered and made of record.

Respectfully submitted,

Date: Nov. 9, 2001

By:



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**FORM PTO-1449 TO BE FILED WITH
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U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No. OSU1159-140 Serial No. 09/975,475

INFORMATION
DISCLOSURE STATEMENT
BY APPLICANTS

Madou et al.

Applicant

October 11, 2001

Filing Date

Group Art Unit

Examiner's name

U.S. PATENT DOCUMENTS

Examiner's Initial	Document Number	Date	Name	Class/Sub-class
	5,480,534	01/02/1996	Kato et al.	204/419

FOREIGN PATENT DOCUMENTS

Examiner's Initial	Document Number	Date	Country/Name	Translation? yes/no
	WO 99/50277	10/07/1999	PCT	No

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1. Einerhand, R. et al., "pH Measurement in Strong Koh Solutions with a Bismuth Electrode", *Electrochim. Acta*, **34**, 345 (1989).
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Examiner	Date Considered
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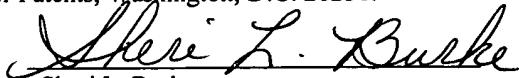
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